Reviewer's report

Title: Measurement of matrix metalloproteinase 9 mediated CO3 degradation fragment as marker for skin fibrosis

Version: 1 Date: 4 January 2011

Reviewer: Andrew Leask

Reviewer's report:

The authors provide fairly limited data but potentially useful suggesting the interesting idea that MMP-9 generated fragment of type III collagen might be a marker of skin fibrosis. The bleomycin model of skin fibrosis is used. It would have been perhaps had more of an impact to use a human clinical system, nonetheless the data appear worthy. Most of the data shown establishing the bleomycin-model of skin fibrosis are already known in the literature and are thus superfluous to the story. For example, data illustrating alterations in collagen IV and proteoglycans in response to bleo are mostly well-known and can be deleted. Moreover, these figures lack appropriate controls, and the data do not reveal striking differences. (The authors should justify why these data should be included; but I would suggest deleting them, other than the first figure showing that bleomycin caused skin fibrosis). Additional data supporting the idea that MMP-9 generated fragment of type III collagen might be a marker of skin fibrosis are required, I feel.

Major compulsory revisions

1 Fig2 lacks control images (PBS-treated samples)

2 Figs 3 and 4 also lack control images. Also the data need to be confirmed using Western blot analysis as the differences between PBS and bleo are not striking. What is the yellow stain

3 Fig 5 The figure legend is inadequate. What do C and B represent. Is this a Northern blot analysis of RNA.

4 I am not sure why proteoglycans and collagen IV were examined (it is known bleo induces these markers) when the paper is supposed to be about MMP-9 generated fragment of type III collagen. (ie the authors should consider deleting Figs 2-5)

5 Is MMP-9 expression altered in response to bleo. What about MMP-9 activity in general is this altered. Are there changes in collagen III levels?

6 The authors only examine bleo-induced skin fibrosis, thus the usefulness of the data is not adequate. However, the authors do discuss this limitation in the text. Can the authors provide precise information as to what clinical conditions these observations might be useful for (last paragraph discussion--eg keloids,
scleroderma etc)?

7 In the last figure, what are C and B. What was the loading control for the Western. Can the authors examine whether or not there are also changes in collagen III levels?

8 Throughout 'PBS' or "P" is preferred to "C" to indicate controls

Minor essential revisions

1 abstract "Bleomycin induced" should have a hyphen

2 abstract "Skin fibrosis induced via daily administration of Bleomycin with injection

in 52 female C3H mice (n=28) treated with Phosphate Buffered Saline (PBS) as controls" makes no sense----please clarify

3 Last sentence in discussion 'well controlled' needs a hyphen

4 The figures are located below the figure legends which makes the paper extremely difficult to review. Please rectify

Level of interest: An article whose findings are important to those with closely related research interests

Quality of written English: Needs some language corrections before being published

Statistical review: Yes, but I do not feel adequately qualified to assess the statistics.

Declaration of competing interests:

'I declare that I have no competing interests'